

What Is Claimed Is:

1. Process for the regeneration of a catalyst plant with a SCOSOx catalyst (2) for the removal of SO₂, and arranged downstream thereof, a SCONOx catalyst (3) for the removal of NO_x, from the flue gas of a gas turbine, in which regenerating gas containing molecular hydrogen or hydrocarbons is conducted through the SCOSOx catalyst (2) and the SCONOx catalyst (3), **wherein** regenerating gas is extracted upstream of the SCOSOx catalyst (2) or between the SCOSOx catalyst (2) and the SCONOx catalyst (3), and extracted regenerating gas is introduced again between the SCOSOx catalyst (2) and the SCONOx catalyst (3) or upstream of the SCOSOx catalyst (2), while fresh regenerating gas is introduced downstream of the SCONOx catalyst (3).

2. Process for the regeneration of a catalyst plant with a SCOSOx catalyst (2) for the removal of SO₂, and arranged downstream thereof, a SCONOx catalyst (3) for the removal of NO_x, from the flue gas of a gas turbine, in which regenerating gas containing molecular hydrogen or hydrocarbons is conducted through the SCOSOx catalyst (2) and the SCONOx catalyst (3), **wherein** regenerating gas is extracted downstream of the SCONOx catalyst (3) and is introduced again between the SCOSOx catalyst (2) and the SCONOx catalyst (3), while regenerating gas is likewise extracted and removed upstream of the SCOSOx catalyst (2).

3. Process according to claim 1 or 2, **wherein** molecular hydrogen or hydrocarbons is added to the regenerating gas which is extracted and introduced again.

4. Process according to one of claims 1-3, **wherein** flue gas is expelled from the catalyst plant with a substantially oxygen-free cleaning gas before the beginning of regeneration.

5. Apparatus for carrying out the process according to one of claims 1, 3 or 4, with a catalyst plant with a SCOSOx catalyst (2) for the removal of SO₂, and arranged downstream thereof, a SCONOx catalyst (3) for the removal of NO_x, from the flue gas of a gas turbine, and also at least one supply pipe (7) for the introduction of regenerating gas, and at least one drain pipe (12) for the extraction of regenerating gas, **wherein** the supply pipe opens between the SCOSOx catalyst (2) and the SCONOx catalyst (3), and is connected to the drain pipe (12) which leaves upstream of the SCOSOx catalyst (2), and a further supply pipe (17) for the supply of fresh regenerating gas is present and opens downstream of the SCONOx catalyst (3).

6. Apparatus for carrying out the process according to one of claims 1, 3 or 4, with a catalyst plant with a SCOSOx catalyst (2) for the removal of SO₂, and arranged downstream thereof, a SCONOx catalyst (3) for the removal of NO_x, from the flue gas of a gas turbine, and also at least one supply pipe (7) for the introduction of regenerating gas, and at least one drain pipe (12) for the extraction of regenerating gas, **wherein** the supply pipe opens upstream of the SCOSOx catalyst (2) and is connected to the drain pipe (12) which leaves between the SCOSOx catalyst (2) and the SCONOx catalyst (3), and a further supply pipe (17) for the supply of fresh regenerating gas is present and opens downstream of the SCONOx catalyst (3).

7. Apparatus for carrying out the process according to one of claims 2-4, with a catalyst plant with a SCOSOx catalyst (2) for the removal of SO₂, and arranged downstream thereof, a SCONOx catalyst (3) for the removal of NO_x, from the flue gas of a gas turbine, and also with at least one supply pipe (7) for the introduction of regenerating gas, and at least one drain pipe (12) for the extraction of regenerating gas, leaving upstream of the SCOSOx catalyst (2), **wherein** the supply pipe (7) opens between the SCOSOx catalyst (2) and the SCONOx catalyst (3), and is connected to a further drain pipe (23) arranged downstream of the SCONOx catalyst (3).

8. Apparatus according to one of claims 5-7, **wherein** a supply pipe (9; 19) for the addition of molecular hydrogen or hydrocarbon opens into at least one supply pipe (7; 17).

9. Apparatus according to claim 8, **wherein** a steam reforming catalyst (10, 20) is situated between the opening of the supply pipe (9, 19) into the supply pipe (7, 17) and the opening of the supply pipe (7, 17).

10. Apparatus according to one of claims 5-9, **wherein** a purge duct (22) for the supply or removal of a cleaning gas opens into at least one supply pipe (17) or drain pipe (23).

11. Apparatus according to one of claims 5-10, **wherein** at least one drain pipe (12, 23) is connected to a hydrogen monitor and to an oxygen monitor.